



**105 WAYS YOU CAN
REDUCE YOUR
ENERGY COSTS
AND
PRESERVE YOUR
ENVIRONMENT.**

HOW CAN YOU REDUCE YOUR OVERALL ENERGY COSTS?

Did you know the energy waste for the average American home is between 25-35% of the total energy used. If you can save 20% of the energy you use, you would save hundreds of dollars a year and do your part to help our environment.

While reading these following tips, you will learn that it does not cost a lot or take much effort to begin to save money. Some of these changes are small quick solutions like using a compact fluorescent light bulb or fixing a leaky faucet while others are just new habits we can all incorporate that in the long run can make a major difference.

WATER HEATING TIPS

1. Take showers, not baths. A five-minute shower will use about 7.5 gallons of hot water, while filling a bathtub can use up to 20 gallons.
2. Install a water-saving showerhead. Don't worry – it won't reduce your water pressure. A family of four, each taking a five-minute shower a day, can save up to \$250 a year in water heating costs by switching to a low-flow showerhead.
3. Fix leaky faucets, especially if it's a hot water faucet. One drop per second can add up to 165 gallons a month – that's more than one person uses in two weeks.
4. Drain your gas water tank - If you have a gas hot water tank in your home, you should know we have to drain the tank 3 -4 time per years to get most of calcium sediment out of the bottom of your hot water tank. You will see good energy saving. The Gas tank has less sediment to heat.
5. Tankless Water Heater - If you need to replace your water heater buy a tankless water heater. It only works when you turn on the hot water tap! No more wasted hot water during the night and day when hot water is not needed.
6. Why use a faucet aerator? It reduces the amount of water coming out of the faucet. Use aerators on kitchen and bathroom sink faucets. If you have hard water, clean aerators and showerheads with vinegar regularly to reduce deposits and build-up.
7. Set the water heater temperature at 120 degrees – about halfway between low and medium. This will help save energy and prevent scalding, while keeping unhealthy bacteria from growing.
8. If your water heater is more than 15 years old, purchase a \$20 insulating wrap to reduce “standby” heat loss. It's also a good idea to insulate hot water pipes where they're accessible.

HEATING TIPS

- 9.** Change or clean your furnace filter once a month. Dust and dirt can quickly clog vital parts, making your furnace run harder and eventually break down.
- 10.** Have your heating system inspected regularly – especially if it's natural gas. A \$50-100 annual tune-up can help reduce your heating use by up to five percent.
- 11.** If you have a forced-air furnace, do NOT close off heat registers in unused rooms. Your furnace is designed to heat a specific square footage of space and can't sense a register is closed – it will continue working at the same pace. Plus, the cold air from unheated rooms can escape into the rest of the house, and condensation can develop on windows and walls.
- 12.** Install a clock-programmable thermostat. If you use it to set back the temperature by 10 degrees for eight hours every night, you'll lower your heating use by up to 10 percent. A \$50 digital thermostat can pay for itself in energy savings in less than a year.
- 13.** Don't set the thermostat higher than you actually want it. It won't heat your home any faster, and it will keep your furnace running longer than necessary.
- 14.** Vacuum registers and vents regularly, and don't let furniture and draperies block the air flow. Inexpensive plastic deflectors can direct air under tables and chairs.
- 15.** If your home has a boiler system, avoid covering radiators with screens or blocking them with furniture. It's also a good idea to add a reflecting panel behind radiators — you can purchase one at a home center or make one yourself with a plywood panel and aluminum foil.
- 16.** If your home has electric baseboard heating, be sure to keep furniture and draperies away from the heaters, and leave at least a three-inch clearance under the heating unit.
- 17.** Keep curtains and blinds closed at night to keep cold air out, but open them during the day to let the sun warm the room.
- 18.** Avoid using supplemental space heaters, including electric, kerosene or propane models. Not only are they inefficient and expensive to operate, they're also very dangerous.
- 19.** If you have hardwood or tile floors, add area rugs to keep your feet warm.
- 20.** Use the sun. There's nothing like sitting in a warm, sunny room on a cold day reading your favorite book or catching up with friends. Especially since that warmth is supplementing your heating system and saving you money. Why not try positioning your chair so you're sitting in direct sunlight and soaking up the heat (and sun!)?
- 21.** If you'll be going on vacation, lower the thermostat to 55 degrees. This will save energy while preventing water pipes from freezing.

COOLING TIPS

- 22.** Set the fan on your central air conditioner to “on” rather than “auto.” This will circulate air continuously, keeping the temperature more even throughout the house and aiding in dehumidification.
- 23.** During late afternoon and early evening, turn off unnecessary lights and wait to use heat-producing appliances. It’s also a good idea to shade south- and west-facing windows during the hottest part of the day.
- 24.** Maintain your central air conditioner by cleaning the outside compressor with a garden hose (be sure to shut off power at the fuse or breaker first). Keep plantings at least one foot away for adequate air flow.
- 25.** Use ceiling and box fans to help circulate air throughout the house, and make sure your attic is properly ventilated. In the summer, use a ceiling fan to blow air down and create a wind-chill effect. In the winter, reverse the fan to circulate warmed air near the ceiling throughout the rest of the room.
- 26.** Set the fan on your central air conditioner to “on” rather than “auto.” This will circulate air continuously, keeping the temperature more even throughout the house and aiding in dehumidification.
- 27.** If you use a window air conditioner, make sure it’s the proper size. It’s better to get one that’s too small than too large – a larger unit will start up and turn off more frequently and won’t do as good a job dehumidifying the air.
- 28.** Don’t judge the efficiency of your air conditioner by the sound of the fan shutting on and off. The blower will continue to circulate cooled air throughout your home up to 15 minutes after the compressor has stopped. (The same holds true for the furnace.)
- 29.** Raise the thermostat to about 78 to 80 degrees when you go to bed or leave the house. A programmable thermostat will do this for you automatically.
- 30.** Install a whole house fan. A whole house fan can pull cool air through the house and exhaust warm air through the attic. It's especially handy at night when the outside air is often cooler than the inside air. A whole house fan can lower the temperature throughout your home about five degrees in less than ten minutes. Attic fans cost about five cents per hour to operate. They can also help to increase the life of your roof shingles.
- 31.** During the winter, remove window air conditioners and seal the windows with caulk and weather stripping. You might also want to cover the central air compressor with a tarp to keep it clean.

INSULATION TIPS

- 32.** Check insulation levels throughout your house. Measure attic insulation with a ruler, and check behind switch plates for sidewall insulation (be sure to turn off the power at the service panel first).
- 33.** R-value measures the amount of thermal resistance. The higher the R-value, the better the insulation. Install more attic insulation. Upgrading from three inches to 12 inches can cut heating use by 20 percent, and cooling use by 10 percent.
- 34.** Add pieces of batt insulation to the rim joists – the area along the top of the foundation where it meets the exterior walls.
- 35.** If your basement is unheated, install blanket insulation in between exposed floor joists.
- 36.** When choosing fiberglass insulation, the new “no-itch” or poly-wrapped products are worth the small extra cost. They’re much easier to handle and safer to work with.
- 37.** Additional attic insulation batts should be installed at right angles to the previous layer. You don’t have to use the same type of insulation – it’s fine to use batts or blankets over loose-fill, or vice versa.
- 38.** When using loose-fill insulation, be sure to distribute it evenly. Any inconsistencies can reduce the insulating value.
- 39.** Replace old windows. In the past, many homes had single-paned windows, metal frames, and other energy-wasting design features. Today, you can solve these problems using technological advances now available, including:
- Double and triple glazing to trap air and improve the U-value
 - Vinyl (PVC) frame construction for better insulation and lower conductivity
 - Inert gas replacing the air between panes of glass, achieving U-values of 0.33 or lower
- 40.** Never cover attic vents or recessed light fixtures with insulation, and allow a three-inch clearance around chimneys and flue pipes to prevent overheating and avoid the risk of fire.

FIREPLACE TIPS

- 41.** If you have a wood-burning fireplace, have the chimney cleaned and inspected regularly, and burn only fully-dried hardwoods to produce the most heat output.
- 42.** Check the seal on the damper by closing it off and holding a piece of tissue paper inside the firebox. If drafts blow the tissue around, repair or replace the damper.
- 43.** When using the fireplace, turn down the furnace to 55 degrees. If you don't, all the warm air from the furnace will go right up the chimney, wasting energy and money.
- 44.** Add fire-proof caulking where the chimney meets the wall, inside and outside.
- 45.** When the fireplace is not in use, make sure fireplace dampers are sealed tight, and keep the glass doors closed. If you never use your fireplace, plug the chimney with fiberglass insulation and seal the doors with silicone caulk.

WEATHERIZING TIPS

- 46.** Seal doors and windows with caulk, weather stripping and plastic film. An investment of \$50 in weatherizing supplies can reduce heating use by two to three times that much. Don't forget the basement windows!
- 47.** Add foam gaskets behind all outlet covers and switch plates, and use safety plugs in all unused outlets. These are prime places for outside air to leak into your home. Be sure to shut off power at the fuse box or circuit panel first.
- 48.** Check the exterior of your home for air leaks, especially around openings for water spigots, air conditioner hoses, dryer vents and gas pipes. Use caulk or expanding foam to seal spaces.
- 49.** If your home has a large, single-pane picture window, use heavy draperies during the winter to help hold back cold air.
- 50.** Tinted window film can help reduce heat gain during the summer, and it will keep furniture and carpets from fading.
- 51.** Check window panes to see if they need new glazing. If the glass is loose, replace the putty holding the pane in place. Most types of window glazing require painting for a proper seal.
- 52.** If drafts sneak in under exterior doors, replace the threshold. If that's not practical, block the drafts with a rolled-up towel or blanket.
- 53.** If you have a door or window you never use, seal the edges with rope caulk. Don't seal them shut permanently – you might need quick ventilation or escape during an emergency.

54. Choose the right kind of caulk for the job. Use latex or acrylic caulk inside – it's easy to clean and more forgiving if you're a beginner. Silicone caulk is great for outside use because it lasts longer and seals virtually any type of surface.

55. Don't forget to weatherize the attic access. Secure batt insulation to the back of the hatch or door, and use weather stripping to seal the opening.

APPLIANCE TIPS

56. ENERGY STAR® label. Look for the ENERGY STAR label. ENERGY STAR is a program designed to help you identify energy-efficient appliances and products. It's better for your environment, your budget, and your peace of mind.

57. In almost every case, a natural gas appliance is more economical to use than an electric model. The \$50-75 price difference can be paid back in energy savings in less than a year, particularly when the electric rate caps come off in 2010. Pennsylvania also has one of the largest natural gas deposits in the world. This will provide our state with clean energy for decades to come.

58. Check the seal on your refrigerator door by closing it on a dollar bill. If you can pull the bill out easily, it's time to replace the gaskets. You can purchase a replacement kit from an appliance dealer or a home center.

59. Vacuum the refrigerator coils about twice a year to keep the compressor running efficiently.

60. Remember no peeking. Don't leave the refrigerator door open. Every time it's opened, up to 30 percent of the cooled air can escape. The same rule holds for the oven.

61. Keep the refrigerator temperature about 36-38 degrees, and the freezer at 0-5 degrees.

62. Don't overload the refrigerator or freezer. The cold air needs to circulate freely to keep foods at the proper temperature.

63. Make sure the refrigerator is level, so the door automatically swings shut instead of open. If the floor isn't level, use shims to prop up the front of the refrigerator.

64. Don't worry about placing hot leftovers in the refrigerator. It won't affect energy use significantly, and cooling food to room temperature first can increase the chance of food-borne illnesses.

65. Use smaller kitchen appliances whenever possible. Microwaves, toaster ovens and slow-cookers can use 75 percent less energy than a large electric oven.

66. If you have a self-cleaning oven, use this feature immediately after cooking, while the oven is still hot. This will reduce a lengthy warm-up time.

- 67.** Use lids on pots and pans to reduce cooking times, and don't put a small pan on a large burner.
- 68.** Keep the grease plates under range burners clean to reflect heat more efficiently.
- 69.** If you have a second refrigerator or freezer, consider getting rid of it. A spare refrigerator can add nearly \$200 to your energy bill every year, and it's a safety hazard for small children.
- 70.** If you have an outdoor hot tub, keep it covered when not in use. If you have a pool, use a solar cover to use the natural warmth of the sun to heat the water.
- 71.** Keep waterbeds covered with quilts or blankets to help retain their heat. You might also want to insulate the bottom with a sheet of rigid foam insulation.
- 72.** If you have an attached garage, keep the garage door closed, especially during the winter.
- 73.** Turn off and unplug any electrical device that's not being used. Many appliances, especially computers, televisions and DVDs draw power even when turned off.
- 74.** Place humidifiers and dehumidifiers away from walls and bulky furniture. These appliances work best when air circulates freely around them. Be sure to clean the unit often to prevent unhealthy mold and bacteria from developing.
- 75.** Even if an appliance is still running, it might be time to replace it. An aging water heater or refrigerator could be costing you much more than you think. If your central air conditioner is more than 10 years old, replacing it with a high-efficiency new unit will cut your summer electric bills by about one-third.
- 76.** Get rid of your bottle water cooler. Replace your cooler with a tap mounted filter. If a water cooler is an energy star cooler you can save up to \$141.00 a year if it is not you can save up to \$256.00 a year.
- 77.** If your home has no sidewall insulation, try placing heavy furniture like bookshelves, armoires and sofas along exterior walls, and use decorative quilts as wall hangings. This will help block cold air.
- 78.** When you take a vacation, don't forget to give your appliances a rest too. Turn off and unplug everything you can, and set your water heater to the lowest setting.
- 79.** Run the dishwasher only with full loads, and use the air-dry cycle. If your dishwasher has a "booster" water heater, use it; this will heat the water to the 140 degrees recommended by manufacturers, while maintaining an energy-saving 120 degrees on your primary water heater.
- 80.** Wash only full loads of clothes, and be sure to set the water level appropriately.
- 81.** Use hot water only for very dirty loads, and always use cold water for the rinse cycle.

- 82.** Use Cold Water Detergent. Most of the energy used to do laundry is for heating the water. Simply switching to cold water detergent and running the wash with cold water will save you lots of money and leave your clothes still smelling great.
- 83.** Clean the lint screen on the dryer every time you use the machine. A clogged lint screen can make your dryer use up to 30 percent more energy – and it can be a fire hazard.
- 84.** Remove clothes from the dryer while they're still damp and hang them up. This will save energy, prevent static and reduce wrinkles and shrinkage.
- 85.** Dry one load of clothes immediately after another. This will minimize heat loss, reducing warm-up and drying times.

LIGHTING TIPS

- 86.** Switch your light bulbs for LED lighting. LEDs produce more light per watt than incandescent bulbs. LEDs are ideal for use in applications that are subject to frequent on-off cycling, unlike fluorescent lamps that burn out more quickly when cycled frequently. Energy saving bulbs can cost a little more but is well worth the price. These bulbs use 75 percent less energy than typical incandescents, and they last 10 times longer.
- 87.** Use devices like dimmers, motion detectors, occupancy sensors, photocells and timers to provide light only when you need it.
- 88.** Keep lamps away from thermostats; the heat produced can cause your furnace to run less than needed or your air conditioner more than needed.
- 89.** Dust light fixtures regularly. A heavy coat of dust can block up to 50 percent of the light output.
- 90.** Use only a single bulb in a multi-socket fixture. Be sure to check the maximum wattage the fixture allows.
- 91.** Replace incandescent outdoor light or high-intensity floodlights with a high-pressure sodium fixture. The bulbs will last longer, use less energy, and handle temperature extremes better.
- 92.** Low-voltage lighting kits are an energy-efficient way to light walkways, patios and decks. The soft light will also attract fewer annoying insects. Solar lighting is another good option and it uses no electricity at all.
- 93.** Purchase LED Christmas lights. LED Christmas light use very little power when compared to tradition incandescent bulbs. Not only that, but their colors are more vibrant and the last up to 50x times longer.

- 94.** Decorate with pale colors on walls, ceilings and floors. Soft tones reflect more light, so you can use lower wattage bulbs and delay turning on lights until later in the day. Using high-gloss paint can help as well.
- 95.** Read light bulb packages carefully. Watts measure the amount of energy needed; lumens measure how much light a bulb produces. Energy-saving bulbs produce more lumens per watt of electricity used.

HOME ELECTRONICS TIPS

- 96.** Unplug electronics - Did you know that even though you may not have an electronic device on, if it is being plugged in it is still using electricity? It's called 'Hidden Loads' and it's a small amount of electricity that seeps out into electronic devices when plugged in. So, if you're not using it, either unplug it, or turn off your power bars!
- 97.** Fax Confirmation Reports - If your fax machine prints a report every time you send a fax, you can turn this feature off. It just wastes paper. Only print a confirmation when you absolutely need it. Just press the Function or Setup button on your fax machine, and follow the steps. When in doubt, check the owner's manual!
- 98.** Laptop sleep - If you have to go eat or something, don't leave your laptop or computer on. To save energy just click the sleep button!
- 99.** Turn off your wireless network - If you don't use your wireless, turn it off. If you do, attach it to your power bar, and turn it off when you're not using it.
- 100.** Purchase Eco Friendly Electronics. When buying new electronics, look for the eco-friendly and energy star labels.
- 101.** Computer monitor - Whenever you're not using your computer, turn off the monitor even if it's just for a few minutes. The monitor takes up more energy than the actual computer so save energy and turn it off! Also, lower the brightness on your monitor to save more electricity.
- 102.** Get a high efficiency power supply - Most computer power supplies are less than 70% efficient, so 30% of the energy is wasted! Get a power supply that is 80% efficient and save on energy (look for 80 PLUS® certified on the power supply). If the computer is a server and left on every day, it will pay for itself in about 3 years. The power supplies cost about \$80, and about \$20 to have it installed.
- 103.** Use your laptop battery - If you have a laptop computer you may leave it plugged in after the battery has been recharged. After your battery is charged unplug the charger and run on battery until it needs charging again. This will stop your power consumption for 2 hours or more depending on your battery

104. Turn off your entertainment units - TVs, VCRs, CD and DVD players and other home electronics use energy even when they are turned off. In the average home, 40 per cent of all electricity used to power home electronics is consumed while the products are turned off. Plug all the components of your entertainment system into one power bar. Then, turn off the power bar when you're finished with them.

105. Unplug your chargers - You know all those chargers you see plugged in, waiting for a laptop or cell phone to charge? Well, they're all drawing power – even when they're not working – so be sure to unplug yours, and stop the power drain.

The Expiration of Electric Generation Rate Caps In Pennsylvania

Why are there rate caps, and why are they expiring?

Under the 1997 Electricity Generation Choice and Competition Act, electric rates - which are comprised of generation, transmission, and distribution - were capped to ease the transition to competitive markets.

The 1997 law allowed residential customers to have direct access to and purchase power from independent EGSs, while still having their electricity physically delivered by electric distribution companies (EDCs) regulated by the PUC. The law also permitted the EDCs to recover “stranded costs.” Stranded costs include investments in infrastructure made before the law was passed that may have become uneconomic and unrecoverable in a competitive environment. With limited exceptions, once rate caps expire, the companies can no longer collect for stranded costs.

In exchange for the recovery of stranded costs, generation, transmission and distribution rates were capped at 1996 levels. The caps on transmission and distribution rates all have expired. After litigated proceedings before the PUC, the generation rates were extended for many of the electric companies.

The following companies rate caps expiration and increases are listed below:
As determined by those proceedings, all utility rate caps will expire by Jan. 1, 2011.

Company Generation Rate Cap Status % of PA Ratepayers

Citizens Electric Co. Expired/0.1 increase
Duquesne Light Co. Expired/10.6 increase
Pennsylvania Power Co. Expired/2.8 increase
Pike County Light & Power Co. Expired 0.1 increase
UGI Utilities Inc. Expired/1.1 increase
Wellsboro Electric Co. Expired/0.1 increase
PPL Electric Utilities Inc. Expires Dec. 31, 2009/24.6 increase
Metropolitan-Edison Co. Expires Dec. 31, 2010/9.5 increase
Pennsylvania Electric Co. Expires Dec. 31, 2010/10.6 increase
PECO Energy Co. Expires Dec. 31, 2010/27.8 increase

Important Note

Homechek, Inc. has provided these energy saving solutions as a courtesy to you. Use them at your own discretion. It is important to note that some of these energy saving solutions may need to be completed by a professional contractor.

If you have any questions or are in need of our inspection services, please call us at 717-764-1920 (York), 717-766-4345 (Mechanicsburg), 717-898-3201 (Lancaster) or 1-800-661-0971. You may also visit us online at www.yourinspectionpeople.com.